GSFC 424-11-12-06

EARTH OBSERVING SYSTEM (EOS)

CHEMISTRY PROJECT

SYSTEM REVIEW PLAN

June 1999

GODDARD SPACE FLIGHT CENTER

GREENBELT , MARYLAND

EOS CHEMISTRY PROJECT
SYSTEM REVIEW PLAN

Prepared by,

Signature of _____ 7/6/99

Ronald Perison
EOS Chemistry Project Systems Assurance Manager — Date

Approved by

Signature of _____ 7/6/99

Phillip Sabelhaus
EOS Chemistry Project Manager — Date

Approved by

Signature of _____ 7/19/99

Josef Wonsever
Systems Review Office of Flight Assurance Chief — Date

CHANGE RECORD PAGE

DOCUMENT TITLE: EOS CHEMISTRY Project System Review Plan

DOCUMENT DATE: June 1999

ISSUE	DATE	PAGES AFFECTED	DESCRIPTION
Original	6/99	ALL PAGES	Approved by CCR #424-11-12-006

DOCUMENT TITLE: EOS CHEMISTRY Project System Review Plan

RELEASE DATE: June 1999

LIST OF AFFECTED PAGES					
Page No.	Revision	Page No.	Revision	Page No.	Revision
Cover	Original				
Title	Original				
i	Original				
ii	Original				
iii	Original				
Iv	Original				
v	Original				
1-1	Original				
2-1	Original				
3-1	Original				
3-2	Original				
3-3	Original				

TABLE OF CONTENTS

1.0 Introduction

The NASA Earth Observing System (EOS) Chemistry Project, System Review Plan (SRP) defines the process and implementation of conducting reviews for the EOS Chemistry Project. The initial description for this process has been provided by Goddard Procedures and Guidelines (GPG) 8700.4A, Technical Review Program Procedures and Guidelines.

This SRP is intended to compliment overall EOS Chemistry Project Management, and therefore, SRP will be an integral part of the project management.

1.1 Purpose

The purpose of this document is to describe the System Review Plan for the EOS Chemistry Project. This includes brief descriptions of the SRP processes in order to carry out this effort. SRP will assist the project in identifying project and contractor technical reviews, identified teams, and review summaries.

1.2 Scope

This document describes a process for utilizing SRP for the EOS Chemistry Project. SRP applies to NASA GSFC activities, as performed by both civil servants and contractors supporting the EOS Chemistry Project, including the spacecraft, instruments, and all disciplines supporting the project. To the extent possible, EOS Chemistry will utilize lessons learned from other EOS Projects in carrying out this SRP.

2.0 Related Documentation

This section lists additional, related documents. Section 2.1 lists the parent document that establishes the criteria and technical basis for this document. Section 2.2 lists the applicable documents; this document is in conformance with the requirements and contents of these documents. Section 2.3 lists recommended reference documents for informational purposes.

2.1 Parent Document

GPG 8700.4A, Technical Review Program, October 6, 1998

2.2 Applicable Documents

GSFC 424-11-13-01, Mission Assurance Requirements (MAR) for the High Resolution Dynamics Limb Sounder (HIRDLS) EOS Chemistry Mission, October 1996

GSFC 420-05-04, Performance Assurance Requirements (PAR) for the EOS Common Spacecraft, January 1994

GSFC 424-11-13-02, Mission Assurance Requirements (MAR) for the Tropospheric Emission Spectrometer (TES) and the Microwave Limb Sounder (MLS) Instruments, November 1996

GSFC 424-11-13-03, Mission Assurance Requirements (MAR) for the Ozone Monitoring Instrument (OMI), June 1999

GSFC 424-11-13-05, Mission Assurance Requirements (MAR) for the Ozone Monitoring Instrument (OMI)/Interface Adapter Module (IAM), June 1999

2.3 Reference Documents

NASA Procedures and Guidelines (NPG) 7120.5A, NASA Program and Project Management process and Requirements Document, Revision A, Dated April 1998

GSFC 424-PG-7120.2.1, EOS Chemistry Project Plan, April 15, 1999

3.0 Systems Review Implementation

Performing systems reviews includes planning, teams, and summaries. The following sections describe these phases for the project.

3.1 Technical and Peer Review Plans

Technical Review Plans are developed for each technical review that is conducted by the EOS Chemistry Project. Formal reviews chaired by the Systems Review Office (SRO) are outlined in the Mission Assurance Requirements (MAR) and Product Assurance Requirements (PAR) for each H/W and S/W element. The Chemistry Project plans the following types of reviews:

- Systems Readiness Reviews (SRRs)
- Systems Design Review (SDR)
- Preliminary Design Reviews (PDRs)
- Critical Design Audits (CDAs)
- Systems H/W & S/W Audits
- Critical Design Reviews (CDRs)
- Test Readiness Reviews (TRRs)
- Functional Configuration Audits (FCAs)
- Physical Configuration Audits (PSAs)
- Pre-Ship Review (PSR)
- Pre-Environment Review (PER)
- Peer Reviews for i.e., calibration, parts, technical interfaces, hardware, software, and others
- Internal Reviews i.e., project, financial, instrument, observatory, risk, configuration, and others

The review appointment memos will address review objectives and goals, schedules (time and place), participating team members, agenda, and other pertinent information.

The formal and peer reviews are held with the contractors that are developers of hardware and/or software for the EOS Chemistry Project. These contractors follow a standard life cycle review process. That is requirements reviews are proceeded by design reviews that are proceeded by test reviews, ending in configuration audits. Peer reviews are scheduled on an as needed basis.

3.2 Technical and Peer Review Teams

Each of the EOS Chemistry Instruments and spacecraft has a MAR/PAR detailing the formal and peer reviews that will be conducted for the respective element. Team members and schedules are created, maintained, and updated reflecting the technical and peer reviews that are scheduled. It is the EOS Chemistry Project Office's responsibility to advise the Code 301 Systems Review Office of changes to the planned dates for formal reviews. Approximately sixty days prior to each review, the project and Code 301 will mutually discuss and finalize the review date and other technical and logistical details for the review.

The EOS Chemistry Project practices concurrent engineering practices in that when there are meetings and activities that require various disciplines, the project manager ensures that the necessary disciplines are represented at the review. These systems and peer reviews are not limited to but include the following types of discipline; schedule and budget, systems engineering, hardware specialists, software specialists, quality assurance and safety.

3.3 Conducting Technical and Peer Reviews

The formal and peer reviews will be conducted with sufficient schedule notice, agendas, appropriate facilities, scribe for taking minutes and action items when appropriate, and a chair person acting in behalf of the project manager (peer reviews) or the Chief, Systems Review Office (systems reviews). Agendas will be kept within the time allotment and individuals are expected to be on time and focus on the agenda. When it is appropriate teleconferencing and Videoconferencing will be utilized. Meetings will have clear objectives and goals that the chairperson will ensure is maintained throughout the meeting.

3.4 Technical and Peer Review Summary

As a result of all system and peer reviews that are conducted minutes, or a review report, will be distributed in a timely manner, usually within five working days and not to exceed ten working days. In the cases where action items and/or Request For Action (RFA) and/or Request For Information (RFI) are generated during systems and peer reviews, they will be cataloged and tracked to closure. All results will be filed at the contractor and/or project library for Configuration Management (CM).

3.5 Scheduled Project Reviews

Planned EOS Project reviews with the SRO for the EOS Chemistry Spacecraft and four instruments; High Resolution Dynamics Limb Sounder (HIRDLS), Tropospheric Emission Spectrometor (TES), Microwave Limb Sounder (MLS), and the Ozone Monitoring Instrument (OMI) are listed in the table below. The dates shown are approximate. All formal dates are kept on the EOS Chemistry Master Schedule:

System	Type Review	Location	Date
Satellite	PDR (Delta)	TRW	11/99
	CDR (Delta)	TRW	09/00
	PER	TRW	08/01
	PSR	TRW	10/02
	LRR	VAFB	12/02
HIRDLS	PDR	LMMS	09/97
	CDR	GSFC	04/99
	PER	LMMS	11/00
	PSR/USA	LMMS	05/01
	PSR/UK	UK	11/01
TES	PDR	GSFC	02/98
	CDR	JPL	06/99
	PER	JPL	03/01
	PSR	JPL	12/01
MLS	PDR	GSFC	01/98
	CDR	JPL	09/99
	PER	JPL	03/01
	PSR	JPL	01/02
OMI	PDR	NIVR	12/98
	CDR	NIVR	10/99
	PER	NIVR	02/01
	PSR	NIVR	11/01